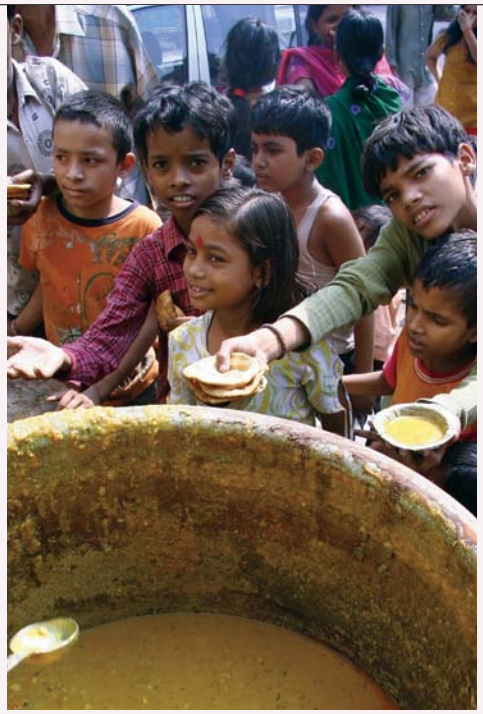
# Counting India's Food Insecure Is Complicated

The most recent USDA global food-security assessment (based on estimates of national food availability) indicates that India accounted for the single largest share of the world's food-insecure population in 2010—about 28 percent. However, based on a household consumption survey conducted by the Indian Government, ERS research reveals that estimates of food insecurity are sensitive to alternative calculation methods, even when high-quality household consumption data are available. Food-security estimates, therefore, can vary widely depending on the estimation methods used.

Using survey data for approximately 125,000 households collected by the Indian Government during 2004/05, ERS computed household calorie purchases and the share of the population that is food insecure. Food insecurity is defined as limited or uncertain availability of nutritionally adequate foods. ERS used 2,100 calories per day as the average per capita minimum requirement for all countries.



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The estimates of the food-insecure population were particularly sensitive to assumptions made regarding the calorie content of processed foods, which cannot be directly computed from the survey data. To test the sensitivity, researchers used alternative assumptions to compute the calorie content of processed and unprocessed foods eaten both at home and away from home. Calculations using alternative assumptions, all equally plausible, resulted in a 173-million-person difference between the high and low estimates of India's food-insecure population in 2005. This difference is equivalent to about 22 percent of India's total food-insecure population estimated by USDA for 2005. Use of the alternative assumptions also led to significant differences in the distribution of Indian households by food-security status, particularly those classified as least and most food insecure.

Given the potential for error in food insecurity measurements, even when reliable household data are available, the accuracy of study results may be strengthened when researchers corroborate assessments using alternative indicators. Information from household surveys can be combined with information on aggregate food availability, such as the ERS *International Food Security Assessment, 2011-21* or *The State of Food Insecurity in the World, 2010*, published by the United Nations Food and Agriculture Organization, and health indicators of undernourishment. Researchers can also consider strengthening household survey instruments to reduce measurement error in key areas, including the caloric intake associated with the growing consumption of processed foods and meals eaten outside the home.

**Alternative assumptions about calories purchased led to significant differences in estimated food security of Indian households in 2005**

| Daily per capita calorie consumption | High-calorie estimate | Low-calorie estimate | Difference[1] |
|---|---|---|---|
| | *Percent of Indian households* | | |
| **Food insecure** | | | |
| Calories < 1,500 | 6.4 | 15.1 | -8.7 |
| 1,500 < Cal < 1,800 | 13.3 | 19.8 | -6.5 |
| 1,800 < Cal < 2,100 | 19.8 | 21.3 | -1.5 |
| **Food secure** | | | |
| 2,100 < Cal < 2,400 | 19.6 | 16.7 | 2.9 |
| Cal > 2,400 | 40.8 | 27.0 | 13.8 |

[1]Significant at the 1-percent level.

Source: USDA, Economic Research Service using data and sample weights from the 61st round of India's National Sample Survey.

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**This finding is drawn from . . .**

"The Sensitivity of Food Security in India to Alternate Estimation Methods," by Sharad Tandon and Maurice R. Landes, in *Economic and Political Weekly* (India), May 28, 2011, Vol. XLVI, No. 22, pp. 92-99.